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ABSTRACT

This study uses statistical data from the Current Population Survey to develop new state-by-state dropout estimates as an alternative to those published by the U.S. Department of Education (USDE). The following new findings are reported: (1) youth are completing high school at a higher rate than previously noted; (2) variations in dropout rates among states are not as great as previously suggested; (3) variations in state dropout rates are related to low parental education and racial/ethnic factors; (4) state labor forces have higher high school completion rates than have been implied in previously published dropout rates; and (5) the states' dropout rates and college participation rates are generally associated. The following findings about Georgia's dropouts are reported: (1) from 1980 to 1987, the percentage of Georgians completing high school increased from 56.4 percent to 71.2 percent and the national rate increased from 66.5 percent to 75.6 percent; (2) in 1986 and 1987, Georgia's dropout rate was 18.3 percent and the national rate was 13 percent; (3) in 1986 and 1987, 79.7 percent of Georgia's labor force had completed four years of high school and the national average was 83 percent; (4) in 1986 and 1987, 40.3 percent of Georgians aged 18 to 24 years participated in higher education and the national average was 42.2 percent; and (5) dropout rates and college participation rates are generally associated and both are products of sociocultural factors, but nonresident enrollment influences college participation rates. Recommendations for state dropout prevention policies are made. Statistical data are presented in five tables and three graphs. A list of 45 references and 3 tables of statistical data to accompany the path analysis are appended. (FMW)

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Public Policy Research Series

School Dropouts:

A Two-Generation Problem

by Lawrence R. Hepburn and Rudolph A. White

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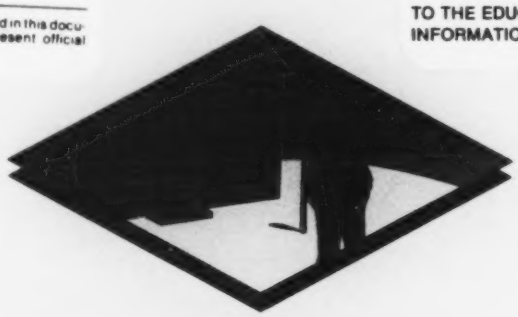

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School Dropouts:

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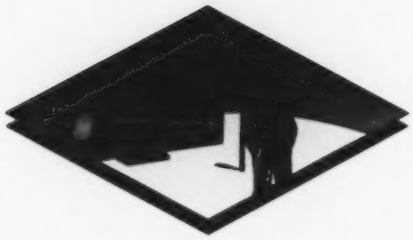

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Foreword

In recent years, school dropouts have become a very visible public issue for state policy communities. Concurrent demographic and economic changes have turned what was once a school problem into a publicly acknowledged social problem. State governments took the lead role in the school reforms of the 1980s, and now they are being asked to take the lead in doing something about dropouts. With the twin spectres of larger populations of at-risk youth and tougher economic competition raised in the public mind, proposals to legislatures and other state agencies to do something about dropouts often carry a crisis-like urgency. Without a clear definition of who or what a dropout is, and little agreement on what dropping out represents in human and social terms, governmental response has varied widely. Not surprisingly, proposed dropout interventions stretch from noneducational quick fixes to long-term restructurings of the education system.

School Dropouts: A Two-Generation Problem addresses the front end of the dropout problem. It takes the state as the unit of analysis and provides new dropout data for Georgia and the other states. How big is the problem? What are its roots? What are state government's prospects for addressing the problem?

This paper is part of the Public Policy Research Series offered by the Carl Vinson Institute of Government. Richard W. Campbell, administrator of the Governmental Research and Services Division of the Vinson Institute, initiated the series and serves as its editor. A major purpose of this series is to contribute to more informed state and local policy decisions in Georgia. This purpose is served through a program of objective and systematic research on complex policy problems and issues confronting the state of Georgia and its local governments. Clearly, a high incidence of school noncompletion is one such policy problem, not only for Georgia but also for other states. While this paper includes information specific to Georgia, its broad scope should make it useful for policymakers in all states.

The authors of this work are Lawrence R. Hepburn, public service associate at the Institute, and Rudolph A. White, professor emeritus of economics, The University of Georgia. Barbara Newman, data analyst at the Institute, and Mindy A. Herman, graduate assistant at the Institute, assisted with research for the paper.

Melvin B. Hill, Jr.
Director

April 1990

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Executive Summary

Purpose

Dropping out of school is among the foremost education issues facing the states. This issue has been driven largely by public awareness that dropping out is a social problem, not just a school problem. While policymakers in most states acknowledge the need to address the dropout situation, they have been handicapped in doing so by (1) the ill-defined nature of the problem, (2) dependence on unreliable estimates of the size of the dropout phenomenon, and (3) a dearth of evidence on the effectiveness of various interventions. The purpose of this paper is to contribute information to the policy discussion on the appropriate state response to the school dropout problem in Georgia, providing more reliable data on the nature and magnitude of the problem in this state.

In general, our analysis suggests that dropping out in Georgia is not spread as widely throughout the youth population as previously published estimates have suggested. Moreover, dropping out is concentrated among youth whose parents are dropouts, indicating that the problem may be rooted in social/cultural factors. Dropout rates, as well as college participation rates, vary from state to state with changes in those social/cultural influences.

Dropouts: A Social Problem

Even though dropout rates have declined over the past several decades, dropping out has become a more serious social problem because of these technological and social changes:

1. the dramatic growth of the youth-at-risk population,
2. a changed industrial structure in which occupational sectors requiring minimal education declined and sectors requiring higher education grew,
3. changed labor-force demographics which raise the demand for labor-force participation of women and minorities,
4. increased economic competitiveness between the United States and other nations and among the 50 states, and
5. a public policy for providing more assistance to economically distressed families.

Individual and Social Costs

The costs of dropping out are significant:

1. less than half of Georgia's dropouts age 16 to 24 were gainfully employed in 1986 and 1987;
2. disproportionately large numbers of Georgia's dropouts age 35 to 52 do not even look for work;
3. in 1987, among Georgians 18 years old and over, 36.4% of those who were high school dropouts earned less than $5,000 per year, and 56.8% of the elementary school dropouts earned less than $5,000;
4. families headed by dropouts are twice as likely to have incomes below the poverty level as all families on average;
5. young female dropouts are more than three times as likely to become unmarried mothers as their counterparts who graduate; and
6. in 1988, only 11% of Georgia's prison population had a functional reading level of grade 12 or more.

Results in Brief

Based on U.S. Bureau of the Census *Current Population Survey* data, we developed new state-by-state dropout estimates as an alternative to the generally inflated estimates previously published by the U.S. Department of Education (USDE). In turn, the new estimates were used to generate information on what causes the variation in dropout rates from one state to the next. Also provided are estimates of high school completion for each state's labor force and college-participation rates for state youth populations.

Since census data have not figured prominently in previous discussions of school dropouts, this state-level

analysis of census-based dropout estimates offers some new, interesting, and important findings—findings which suggest that the dropout problem, while not as widely distributed among the teenage population as previous research would indicate, is a much deeper problem requiring policies that involve a long-term view and perhaps a long-term intervention.

Findings, based on state-level census data that have not been used before in the dialogue on dropouts, are that

1. youth populations in Georgia and other states are completing high school at a higher rate than the most widely published dropout estimates have suggested,
2. the variability in youth dropout rates from one state to another is not as great as the published estimates have suggested,
3. the variability that does exist in youth dropout rates from state to state is explained mainly by low parental education and race/ethnicity factors,
4. state labor forces have higher rates of high school completion than have been implied in previously published dropout rates, and
5. the states' youth dropout rates and college participation rates are generally associated.

Educational Attainment in Georgia

Findings, based on census data, contradict exaggerated estimates of Georgia's dropout problem, as follows:

1. From 1980 to 1987, the percentage of Georgians 25 years old and over, completing four years of high school or more, increased from 56.4% to 71.2%; the comparable rate for the whole United States went from 66.5% to 75.6%.
2. In 1986 and 1987, Georgia's noncompletion (dropout) rate for persons age 18 to 24 was 18.3% while the national average was 13%; in this age group, Georgia ranked 43d in high school completion.
3. In 1986 and 1987, 79.7% of Georgia's labor force had completed four years of high school or more and the national average was 83.0%; Georgia's labor force ranked 41st.
4. In 1986 and 1987, 40.3% of Georgia's 18 to 24 year olds participated in higher education and the national average was 42.2%; Georgia ranked 33d in this measure.
5. Dropout rates and college participation rates are generally associated; both are products of social/cultural factors, but nonresident enrollment influences college-participation rates.

Factors in Dropping Out

Existing research on school dropouts indicates that dropping out is influenced by social and cultural factors that vary from state to state. Our analysis of census-based estimates reveals that state dropout rates are strongly influenced by low parental education and race/ethnicity factors, as follows:

1. the greater the percentage of a state's older population with less than a high school education, the higher the youth dropout rate;
2. the greater the percentage of disadvantaged minorities in a state's public school system, the higher the youth dropout rate.

Policy Implications

Dropping out of school is a deeply rooted phenomenon: it is a public problem that will not be solved overnight. Dropout policies aimed at quick fixes will likely have no lasting effect.

Because dropping out is the culmination of a long conditioning process, because it is linked from generation to generation, and because dropout parents' negative or indifferent attitudes toward education are passed on to their young children, state policy should have a two-generation focus: preschool/primary-age children and their dropout parents.

As our analysis suggests, dropping out seems to be indicative of the larger problem of student *underachievement*. This linkage to underachievement is reflected in relatively low levels of college participation and other measures of educational attainment. The policy focus of state efforts to remedy the dropout problem, then, should probably be broadened. State policies most likely to be effective would be those that address the need to stimulate scholastic achievement in all children, not just children most likely to drop out.

Part 1. Introduction

> The future of any country which is dependent upon the will and wisdom of its citizens is damaged, and irreparably damaged, whenever any of its children is not educated to the full extent of his talent, from grade school through graduate school. Today, an estimated 4 out of every 10 students in the 5th grade will not even finish high school—and that is a waste we cannot afford.
>
> —President John F. Kennedy, 1963 State of the Union message to Congress.

History

Our concern about school dropouts isn't new. It dates at least to 1872 when W. T. Harris addressed the National Education Association (NEA) on "The Early Withdrawal of Pupils from School: Its Causes and Its Remedies" (Morrow 1987). But until recently, it was primarily a concern for educators—a school problem; but a fairly minor one. After all, for most of our history, dropouts outnumbered graduates.[1] For some dropouts early in this century, the costs of not graduating from high school may have been important, but they were usually nonmonetary costs: lost opportunities for the acquisition of knowledge, development of the intellect, and leading the full life (Weisbrod 1965). Generally, neither the individual's nor the nation's *material* well-being suffered as a result of high dropout rates.

By the time President Kennedy voiced his concern, however, technological change had raised the monetary worth of a high school education. Already the low-skill job market was drying up. Because unemployment could be linked to high school noncompletion, the public began to see dropping out as a social problem—not merely a school problem. And because noncompletion in the 1960s was concentrated, as it still is, in minority and low-income populations and certain geographic areas such as inner cities and Appalachia, doing something about it became an equity issue as well as an economic issue. The Elementary and Secondary Education Act of 1965 provided for compensatory education programs designed in part to address the lagging high school completion rates of disadvantaged populations. From 1969 through 1976, the U.S. Office of Education distributed $46 million in grants to some 30 local demonstration projects aimed at reducing the numbers of high school dropouts (U.S. GAO 1987).

Whether or not these projects were responsible, from 1965 to 1985 dropout rates and numbers generally declined. In 1986, the United States General Accounting Office (GAO) reported that "youth are far more likely to complete high school today than 20 years ago." Citing Bureau of the Census data, GAO reported "for the past 10 years, the dropout rate for youth 16-24 has remained roughly the same—about 13-14 percent. For white youth, the dropout rate generally has been steady for the past decade, while for blacks, the dropout rate has slowly declined" (U.S. GAO 1986). Other census figures showed that among persons 16 to 24 years of age, 839,000 were recent dropouts in 1978; this high number roughly mirrored the population peak of the baby boomers. By 1986, census data showed that recent dropouts had declined to 562,000, down one-third since 1978 (Markey 1988).

In Georgia, too, dropout rates had declined. In 1987, among Georgians 25 years old and over, 71.2% had completed four years of high school or more; the comparable figure for 1970 was only 40.6% (USBC 1988a).

When state education reform projects swept the nation following publication of *A Nation at Risk* in 1983, high school noncompletion had evidently ceased to be a priority public concern. By 1985, only 15 of 54 "excellence-in-education" commissions had touched on the at-risk student or dropout situation (Smith and Lincoln 1988). Quality, not equity, was their main concern.

However, many educators had not lost sight of the fact that even though overall dropout rates had declined, a substantial portion of youth, especially minority youth, were dropping out. State governments began earnestly attending to the dropout situation at mid-decade. Notably, California, Colorado, Florida, Massachusetts, New York, and North Carolina provided substantial

1. There are college dropouts, too, but outside of certain academic circles they have not been viewed as enough of a problem to warrant the attention of state policymakers. In this paper we take dropouts to mean persons with less than four years of high school.

monies to local districts specifically for the development of dropout-related interventions (Sherman 1987).

In Georgia, in 1986 a legislative Study Committee on High School Dropouts was appointed, while educators in several school districts took the lead in attending to a dropout situation reportedly one of the worst in the nation. By 1988, dozens of community dropout prevention programs were in place, and the Georgia Department of Education published a hefty resource manual to aid local districts in further efforts (GaDOE 1988). In 1989, the General Assembly appropriated approximately $33 million for programs that were, at least in part, supposed to address the dropout situation.[2]

Still on the table in Georgia and other states, or waiting in the wings, are a plethora of additional dropout-related proposals including early childhood interventions, parental education, guidance counselors in elementary and middle schools, middle school restructurings, reduced class sizes, alternative high schools, workplace literacy classes, suspensions of driving licenses, and reductions in welfare payments.

Although policymakers in most states see that school dropouts are a significant problem, how to respond effectively to the problem is not so clear to them. This situation is attested to by the National Conference of State Legislature's annual survey of education-committee chairs. While the perennial top-priority issues, K through 12 finance and accountability, ranked first and second in significance, dropouts emerged as the third most important issue for 1989. The majority of committee chairs expected to consider *pilot projects* for dropout prevention or recovery, a strategy that allows the states to test interventions with a limited amount of funding (NCSL 1989). Although such a program strategy has been criticized for being cosmetic, it does reflect a consensus that clear-cut legislative responses to the dropout situation do not readily present themselves. Because research findings on the effectiveness of dropout interventions are scarce, this strategy of limited funding for developing and testing different models makes sense.

2. These were an in-school suspension program for disruptive high school students, a special instructional assistance program for pupils with difficulties in kindergarten and grade 1, and a program to provide instruction in English to speakers of foreign languages.

Purpose of This Paper

The purpose of this paper is to contribute information to the policy discussion on the appropriate response to the school dropout problem. We provide data on the nature and magnitude of the problem in Georgia that is more reliable than previous estimates.

In general, our analysis suggests that dropping out is not spread as widely throughout the youth population as inflated estimates previously published have suggested. In fact,

1. youth populations in Georgia and other states are completing high school at a higher rate than the most widely published dropout estimates have suggested;
2. the variability in youth dropout rates from one state to another is not as great as the published estimates have suggested;
3. the variability that does exist in youth dropout rates from state to state is explained mainly by low parental education and race/ethnicity factors; and
4. youth dropout rates and college participation rates are closely associated.

Part 2. Where the Dropout Problem Comes From

What to do about dropouts became a major public issue in the late 1980s. Why? The answer lies mainly in the belated recognition that today, even more than in the 1960s, dropping out of high school can be linked to a multitude of negative material consequences *for society*, not just for the individual who drops out.

While school dropout rates appeared stuck at 13 to 14% (as census data suggested) and a changing world economy made a labor force educated to think for a living ever more critical to the country's well-being, serious public concern was justified. To heighten that concern, statistics published by the U.S. Department of Education (USDE) allowed that more than 25% of the nation's youth—and 37 to 38% of Georgia's youth—were not completing high school. If these higher estimates were accurate, we had a crisis on our hands.

Setting aside for the moment questions about the reliability of these higher estimates, let us address those changed circumstances that made dropping out a matter of serious public concern.

Dropout Rates: What Do They Mean?

The incidence of dropping out is usually reported as a percentage, popularly called a dropout rate. To understand what a reported rate means we must know what that rate refers to. For example, a 5.4% dropout rate calculated by the Georgia Department of Education for 1986-87 tells us that 5.4% of Georgia students enrolled in grades 8 through 12 were administratively dropped from enrollment during the 1986-87 school year (GaDE [1987a]). A 37.3% rate, calculated by the same department, tells us that 37.3% of the ninth graders enrolled in 1983-84, did not graduate from high school in 1986-87 (GaDE [1987b]). An 18.3% rate that the authors have calculated, and report in detail later in this paper, tells us that an average of 18.3% of Georgians ages 18 to 24 had yet to complete high school in 1986 and 1987.

Note: The authors have combined census data for two years, 1986 and 1987, in order to have larger sample sizes for estimating state-level dropout rates. These two-year average rates are more accurate than one-year rates would be.

Social Change

Several major developments in the past few decades have made dropping out more costly to the individual and to society.

Youth At Risk

The term *at risk* is relatively new in popular usage, coming into its own only in the 1980s. It is particularly applied to young people whose prospects for becoming productive members of society look dim. Statistics on poverty and related social ills indicate that the nation's youth-at-risk population has grown dramatically over the past two decades (Siegel 1988). Dropping out is one manifestation of being *at risk*.

We have always had a population of youth who, by any number of factors, such as having to support the family or having to get married, were put at risk of quitting school and thereby suffering negative consequences. Now, however, because of demographic and socioeconomic changes, that population has grown and the risk factors have intensified.

Some young people are put in this at-risk population simply by being members of a racial or ethnic minority. Historically the public schools have not served racially or culturally different children as well as they have served the children of the white majority, and minority populations have typically had higher dropout rates than white populations. Recently, due to higher birth rates of minorities and burgeoning immigration from Latin America, the Caribbean, Southeast Asia, and the Pacific Islands, minority enrollment in the nation's schools has sharply increased: from 21% of the school population in 1970 to almost 29% in 1984 (Siegel 1988). Increasing minority enrollments raise the spectre of ever greater numbers of dropouts.

Other factors that put youth at risk have also increased in recent years. In 1985, about 22% of all children lived in poverty; up from 16% in 1970. Other factors, some of which go hand-in-hand with poverty, include family dissolution, neglect, physical and sexual abuse, and social alienation. Increasing rates of teen drug and alcohol abuse, births to unmarried adolescent females, abortion, delinquency, and deaths by accident and suicide—perhaps reflecting diminished parental commitment to children—indicate further a general deterioration in the well-being of youth (Buccino 1988).

Industrial Structure

Educational attainment has long been a predictor of employment patterns: whether or not one participates in the labor force; the likelihood of finding employment, of working full time or part time, of becoming unemployed, of holding relatively high-paying or low-paying jobs.

However, until fairly recently a high school education was not a rigid prerequisite to having a good job and a median level income. In Georgia between 1950 and 1980, employment in agriculture and personal services—occupational sectors generally requiring a minimum level of education—declined as a percentage of total employment from about 33% to 8%. During the same period, employment in professional, business, and financial services—sectors generally requiring higher levels of education—grew as a percentage of total employment from about 11% to 28% (Floyd 1987). Changes such as these in Georgia's industrial structure not only placed persons with less education at an even greater disadvantage for entry into better-paying jobs but also put the most poorly educated workers at increased risk of unemployment.

The ever-changing workplace requires not just a better-educated worker, but a differently educated worker. The ability of workers to meet the requirements of an evolving technology demands a foundation consisting of more than the basics of reading, writing, and computation. Customizing service to clients, making quality a primary concern, and utilizing work teams rather than assembly-line techniques require understanding of quality control, ability to calculate needed adjustments in processes, and numerous interpersonal and organizational skills.

Labor Force Demographics

Paradoxically, the increased risk of unemployment that less-educated workers face today comes at a time when America faces its first large-scale shortage in its labor growth increment in many decades. U.S. labor-force growth through the 1970s, for example, amounted to

more than 24 million persons, an annual growth rate of 2.6%. From 1980 to 1988, however, we had a labor-force increase of less than 15 million persons, a 1.6% annual growth rate. From 1988 to 2000, the labor-force increase is projected to be just 19 million persons, with a growth rate of 1.2% (Fullerton 1989).

A labor growth pool that is shrinking significantly is of particular concern to business. During the baby-boom era, business could just skim off the cream for entry-level hires and, at relatively low cost, could replace workers found deficient. Now business faces the prospect of digging deeper into the entry-level cohort. It has to concern itself with the educational skills of populations that in past years have generally had lower labor-force participation rates (women) and the highest dropout rates (blacks and Hispanics) (Carnevale, Gainer, and Meltzer 1988). Whereas the 1976 labor force was composed of approximately 50% non-Hispanic white males—the population that has traditionally had the highest levels of educational attainment—the labor force in 2000 will feature only 39% non-Hispanic white males (Fullerton 1989).

Economic Competitiveness

Movement on the dropout situation is akin to the larger education reform movement of the 1980s: both have been driven by heightened concerns for economic productivity and competition. Of 46 states responding to a survey by the National Conference of State Legislatures (NCSL), 35 states said they used, or were planning to use, economic development arguments to fuel their education reforms in the period 1981 through 1987 (NCSL 1989). Such a finding makes sense not only given changes in the nation's industrial structure and growing demands for an educated labor force, but more so given the expanded involvement of state governments in economic development.

The new climate of economic competitiveness has not only pitted the United States against other nations, but also state against state. Competitiveness has given a new value to schooling: an educated population is now counted as a "resource," like water, soil, and railroads; and when it comes to choosing a plant site, education now figures more prominently in state-by-state comparisons (Siegel 1988). Today, firms supplying information to businesses considering relocations or start-ups incorporate state dropout rates, along with college participation rates and other education measures, into their rankings of state business climates (for example, see Grant Thornton 1987).

Public Welfare Policy

Since the 1930s, public policy has made available to economically distressed families a growing array of benefits, including social security, unemployment insurance, public assistance, and health and social services. Today, society bears substantial financial costs associated with private economic distress that is in some measure a product of undereducation. If one accepts the assumption that more education would alleviate such economic distress, and therefore its associated costs, then society has a legitimate and vital interest in the school dropout.

In sum, economic interdependence and social integration mean the nation can no longer afford to have a large population of high school dropouts.

Part 3. Some Social Costs of Dropping Out in Georgia

The Employment Situation for Georgia's Dropouts

Unemployment

Employment data illustrate the basic disadvantage the recent dropout suffers today. Consider for example the situation of Georgians age 16 to 24 who were not currently enrolled in school or college in 1986 and 1987.[3] Of those in this age group who had completed less than four years of high school, an annual average of 20.2% were classified by the U.S Department of Labor as unemployed. By comparison, only 9.6% of those in this age group who were just high school graduates (that is, had no college) were unemployed. However, since "unemployment" by definition only measures persons actively seeking work, unemployment rates reflect only part of the situation.

Labor Force Participation

Unemployment rates are calculated for that portion of the *labor force* (not the total population) that is out of work. To be counted a participant in the labor force,

3. All employment and income data for Georgia presented in this and following sections are by the authors from CPS, machine readable tapes, employment and earnings files, all months, except June, July, August 1986 and 1987.

a person has to be working or actively looking for work. In 1986 and 1987, only 58.5% of Georgia's dropouts age 16 to 24 were in the labor force. That means 41.5% were not even looking for work. By comparison, 88.4% of Georgia's recent high school graduates (who were not enrolled in school or college) were in the labor force.

Employment to Population Ratio

The combined impact of lower labor-force participation rates and higher unemployment rates can be seen in a measure called the employment-to-population ratio. This ratio represents the fraction of a population that is gainfully employed. While the employment-to-population ratio in 1986 and 1987 for Georgia high school graduates age 16 to 24 (not enrolled in school or college) was 80.8%, for dropouts the ratio was only 46.7%. In other words, *less than half of Georgia's recent dropouts were gainfully employed in 1986 and 1987.*

Long-term Disadvantages

Although the label *dropout* is popularly applied to young people, being a dropout is not a transitional stage. Poorly educated men and women generally remain at a disadvantage throughout their working lives.

Because unemployment rates for middle-aged workers in Georgia—even those who are school dropouts—are relatively low, they mask the real unemployment situation: disproportionately large numbers of older dropouts just do not look for work. For example, in 1986 and 1987, the employment-to-population ratio for Georgians age 35 to 52 was 86.4% for those with some college, 76.6% for high school graduates, but only 61.8% for the middle-aged dropouts.

Even among Georgia's oldest population group, persons age 65 and over, being a dropout remains an economic disadvantage. In 1986 and 1987, among Georgians age 65 and over who had some college, 21% were gainfully employed. By comparison, 16.5% of those with just a high school diploma were employed, but only 6.6% of elderly dropouts were employed. This situation is particularly unfortunate because those aged persons least likely to be working, the dropouts, are the most likely to have low retirement incomes. Social security payments are way down for old dropouts because they generally had lower earnings throughout their working lives.

Income

The basic disadvantage that dropouts suffer is also illustrated by comparative income data.

In March 1987, for employed Georgians 18 years old and over (persons no longer in school), 56.8% of persons who were elementary school dropouts earned less than $5,000 annually; for high school dropouts, 36.4% had such low earnings; while for high school graduates (not those who went to college) the percentage fell to 24.7%.

In 1986 and 1987, 58.5% of Georgia retirees age 65 and over who were also dropouts had family incomes of less than $10,000 per year (a rough approximation of the poverty level). By comparison, 38.8% of those with four years of high school and only 29.2% of those with some college had incomes below $10,000.

In Georgia, as well as elsewhere in the country, dropouts are twice as likely to be paid at or below the minimum wage (Mellor 1987).

Costs to Society

What gives society an interest in this matter? Dropping out becomes more than a private matter when the dropout's economic situation begins to have substantial negative effects external to his or her family. At that point, the individual costs of dropping out become social costs (Weisbrod 1965). Because the country is more integrated economically and socially today than it was in the past, more than ever an individual act of dropping out is practically bound to incur social costs.

Development and Productivity Costs

Just as one's education is a predictor of individual employment patterns, educational attainment in the aggregate becomes a predictor of economic development patterns. To the extent that states and communities are characterized by low levels of educational attainment, so, too, will their economic development be limited. In short, if high dropout rates mean lost opportunity for a community's development, that in itself is a social cost.

The extent to which an allegedly high dropout rate among Georgia's labor force might have already imposed economic development costs on the state of Georgia is unknown. But consider the effect when, after incorporating educational measures including high school dropout rates more heavily into its analysis, a major business research firm drops Georgia from 8th to 23d place in its ranking of business climates in the 48 contiguous states (Grant Thornton 1987). The influence on Georgia's industrial recruitment efforts is unlikely to be positive.

A case can be made that the social costs of slowed economic development are cumulative. In the locality with a high proportion of dropouts in the labor force, productive capacity and output are likely to suffer. Because dropouts are less productive, they generate less income. Less income translates into less spending, into lower sales and fewer profits for local businesses, and into less tax revenue for local governments.

Public-Budgeted Costs

Governments provide services to everyone, but to the extent that dropouts are disproportionately represented in the population receiving specific services, one may associate dropping out with higher public-budgeted costs. Because families headed by dropouts are more likely to have incomes below the poverty level, they are

more likely to receive direct welfare subsidies including Aid to Families with Dependent Children (AFDC), food stamps, Medicaid, and Supplementary Security Income assistance (SSI).

In 1987, one in ten American families with householders 25 years old and over had incomes below the poverty level. However, as data shown in Table 1 indicate, if the householder had attained less than four years of high school, the likelihood of the family being in poverty increases to approximately one in five. For black families, already disproportionately represented among poverty families, the likelihood becomes two in five.

High rates of motherhood and welfare assistance are characteristic of young female dropouts. Data from the federal High School and Beyond survey (HS&B) reveal that among female dropouts who should have graduated in 1982, 33% were unmarried mothers in 1986. In contrast, only 9% of their counterparts who graduated were unmarried mothers. By 1985, many of the female dropouts had turned to welfare assistance: 20% of Hispanic, 20% of white, and 44% of black female dropouts. We can assume that virtually all these dropouts receiving assistance had children (Hispanic Policy Development Project 1989).

The extent to which families are living in poverty is an indicator of the overall social welfare of a community or state. The stresses associated with living in a poverty situation may have further adverse consequences, including infant malnutrition, child abuse or neglect, accident and injury, mental illness, alcoholism, drug abuse, and family dissolution.

Because many families represented in poverty statistics are also represented in statistics describing social ills, the cost of poverty to the state is far greater than the sum of direct financial assistance to them. Large portions of expenditures for health and social services address problems which often originate from conditions of poverty (Mitchell 1987). Also, public-budgeted costs for police services, court services, and penal system services may be added to the community's direct social losses attributed to the generally higher level of criminal activity of undereducated persons.

Table 1: *Percentage of Families below Poverty Level, by Educational Attainment of Householders 25 Years Old and over, 1987*

Householder Education	Families below Poverty Level		
	Total* %	White %	Black %
All Levels of Attainment	10.0	7.5	27.9
Elementary	22.8	19.7	36.3
H.S., 1-3 years	18.8	13.4	42.6
H.S., 4 years	9.3	6.9	27.8
College, 1 year or more	3.7	2.9	11.2

Source: U.S. Bureau of the Census, Current Population Reports, Series P-60, No. 161, *Money Income and Poverty Status in the United States: 1987.*

*Total includes Hispanic families, not shown in Table.

Direct Social Costs

Associated with the concentration of long-term unemployment and low labor-force participation in population groups and geographic areas characterized by low levels of educational attainment are a host of direct social costs. While the adverse consequences of undereducation and joblessness for the *individual* (such as personal frustration and financial distress) do not necessarily translate into direct social losses (such as delinquency and crime), an association can be made between low educational levels and unemployment, poverty, and crime levels of *groups*.

Data on Georgia's prison population as of January 1988 reveal that only 11% of inmates recorded a functional reading level of grade 12 or more and only 4% recorded a functional math level of grade 12 or more (GaDC 1988).

In 1987, a national survey of persons age 18 to 24 held long term in state-operated institutions for youthful offenders found that only 9.6% had graduated from high school (USDJ 1988).

These statistics can be misleading, however. While statistical associations can be made between the incidence of dropping out in a population and certain social costs, it is difficult to separate the effects of dropping out from the effects of other problems—such as family breakup, abuse, or neglect—that the dropout population may have.

Human Potential

Economic cost is not the only reason to concern ourselves with dropouts. Education holds far more than monetary significance. Dropping out means an individual's loss of opportunity for intellectual development and the rewards of a full life. America's youth are not mere human "resources"—they are human beings first. The greatest cost of dropping out is the waste of individual human potential.

Part 4. The Size of Georgia's Dropout Population

In 1986 and 1987 an average 18.3% of Georgians age 18 to 24 had not completed high school. This estimate, which has not been published before, is based on Bureau of the Census data.

It contrasts sharply with widespread media reports that Georgia had 37.3% and 37.5% high school noncompletion rates for 1986 and 1987. Those estimates, from data published by USDE, are based on school district administrative records.

Why is there such a difference?

Ups and Downs of Dropout Estimates

On the surface, being a dropout seems like an uncomplicated proposition and should be easy to count. The popular idea of a dropout is a youth who quit high school and never went back. That, however, is not the way it is.

Youth drop out and they drop back in, sometimes several times. Some formally withdraw from school. Others just fail to show up. Some are administratively pushed out. They may stay out a few weeks, several months, or years. Youth drop out here and drop in there; across district lines and state lines. Many once-upon-a-time dropouts eventually graduate from high school.

The nation has more than 80,000 public schools in 15,500 local districts. The schools do not have uniform policies and procedures for keeping records.

The 18.3% dropout rate for Georgia allows for the temporary nature of many acts of quitting school. It is based on a monthly survey of households by the Bureau of the Census, not school records. The figure represents true dropouts: youth who dropped out and were still out in 1986-1987.

By contrast, the estimates of 37.3% and 37.5% do not allow for temporary withdrawals or for errors in school records. They lump true dropouts with students who never were dropouts.

Inflated Dropout Estimates

In 1989, the U.S. Department of Education (USDE) released its annual "wall chart" of statistics comparing student performance state by state. For Georgia, it showed a high school completion rate in 1987 of just 62.5% (USDE 1989a). The message: 37.5% or nearly two-fifths of Georgia's youth were entering adulthood without at least a high school education. Was that really the case? Hardly. But, without data at hand to refute this inflated estimate of the size of Georgia's dropout population, educators and the general public alike have tended to accept it with little question. Georgia's experience is not unlike that of other states where similarly inflated statistics have distorted a serious and complex social problem, supplying the fodder for crisis coverage by the media.

For the most part, generally unreliable statistics have been used to inform the public about dropouts. Public school administrative records, the source of the bulk of these statistics, are kept, collected, and reported in so many ways that the dropout figures produced from them are not comparable across states or geographic regions (U.S. GAO 1987). In particular, crude school-based estimates of high school noncompletion have been used to compare the dropout phenomenon state by state and generally to drive the public debate on what to do about dropouts.

These crude estimates, presented as they have been for several years in conjunction with resource inputs such as state average teacher salaries and pupil/teacher ratios (see for example, USDE 1989a), convey the misleading notion that some states are way behind others in high school completion mainly because of gross differences in resource inputs that can be readily manipulated by state action. In turn, the misperception that the dropout problem is a shallow one encourages the idea that quick-fix solutions are at hand if only the schools would try them.

More Realistic Estimates

By publishing an 18.3% dropout rate for Georgia, about half the previously published rates, we do not intend to minimize the situation. There is no denying that too many youth drop out of school. The problems that dropouts face, or cause, are real. Indeed, as our analysis presented in Part 5 reveals, this 18.3% dropout rate represents a deeply rooted phenomenon, one that is not likely to be changed overnight. Our contention is that state government interventions on behalf of children who are at risk of terminating their schooling short of high school graduation will have no lasting effect unless those interventions are based on a clear idea of the true nature of the task each state faces.

The more realistic estimate of Georgia's youth dropout population—that in 1986 and 1987 an average 18.3% of Georgians age 18 to 24 had not completed high school—reflects a different way of looking at dropouts. This is not an estimate of the percentage of students who dropped out at some time during those years. Rather, it is an estimate of the percentage of 18 to 24 year olds who in 1986 and 1987 were not enrolled in school and had yet to complete high school.

In the remainder of Part 4, we present an argument for using Bureau of the Census data as an alternative to school-based data to gain a clearer idea of the task each state faces in addressing the dropout situation, and

we present a comparison of the *size* of state dropout populations. Later, in Part 5, we will address the underlying *causes* for the variation in dropout rates from state to state.

Sources of Data on the Size of Dropout Populations

There are two basic sources of state-specific dropout data: (1) administrative records originating in local school districts and (2) population enumerations and surveys conducted by the U.S. Bureau of the Census.[4] While these two sources may be used to produce dropout numbers and "rates" (a percentage figure), they produce very different estimates of the dropout phenomenon because they use different dropout definitions and procedures for collecting and reporting data.

Dropout Definitions

One may use the term "dropout" to denote a school *event*: "Jane dropped out of the high school today." Or, one may use it to denote a personal *characteristic*: "Jane's father is a dropout." School districts and state education agencies generally report the number of times dropping out occurred (not the number of youth who are dropouts), while the Bureau of the Census reports the number of persons in the population who are currently dropouts.

Discussions of the dropout situation often confuse these ideas of who or what a dropout is. Making a distinction between them is important because counting the number of times a school event occurs and counting the number of persons in a population who exhibit a certain characteristic is not the same thing.

Dropouts as Events. Although school districts may identify an individual ex-student, "Jane," as a dropout, in collecting and reporting dropout numbers they generally treat dropping out as an event. When Jane leaves a district school without graduating or transferring and stays away for more than some locally specified period of time, the district records that one dropout has occurred. The school district has, of course, no way of knowing whether or not Jane's act of leaving will constitute a permanent withdrawal. Even if it proves temporary and Jane re-enrolls and graduates months or years later, Jane's irreversible act of dropping out has been counted.[5] For the school district, then, the number of dropouts it records is actually the number of acts of dropping out committed by students during a specified period of time (for example, a year or several years).

Dropouts as Characteristics. The Bureau of the Census generally treats a dropout as a characteristic exhibited by a member of a population. Any person—Jane's father, or grandfather, or Jane herself—who is not currently enrolled in school and has yet to complete high school is defined as a noncompleter (or dropout). The number of dropouts for any population, say 18 to 24 year olds, is the average number of persons in that population who are not currently enrolled and have not completed high school at some point in time, for example, October 1986 or the two-year period, 1986 and 1987. This idea of what a dropout is—a person not currently enrolled and not a high school graduate—incorporates the reasoning that the person's current status may be temporary. If, at any time, this person graduates or is re-enrolled in school he or she ceases to be a dropout.

The Usefulness of Dropout Definitions. To think of dropping out as an event is useful if we need to know how many students left the public schools during some time period. Knowing when dropping out occurs and whether or not it is related to such changes as a decline in the local economy or a stiffening of graduation requirements depends on counting the number of times dropping out occurs.

On the other hand, if we want to know how many dropouts are currently in a population, say Georgia's labor force or the Southeast's Hispanic population age 18 to 24, regardless of when or where they left school, we have to look at a dropout as a personal characteristic. Moreover, to make a connection between being a dropout and being something else—perhaps unemployed, in poverty, or white and female—we have to look at high school noncompletion as a characteristic.

Inherent Difficulties with School District Data

While the Bureau of the Census produces its data by a standardized process, the nation's public schools do not. State and local education agencies generally provide that a dropout occurs *when a student leaves school prior to high school graduation without formally transferring to another school.* But, the nation's public schools have widely varying policies covering the enrollment status of students. Where one district might drop students from enrollment because of truancy, another might not. Regarding transfers of enrollment, one district might accept placement in an institution for a youthful offender as a transfer, a second might count it as a dropout. Therefore, when and under what circumstances a local district officially counts a dropout generally depends on who is counting.

School-based dropout statistics are also rendered less than reliable by wide variations in record-keeping and data-reporting procedures. It is a fact of political life

4. National dropout data have also been provided by two longitudinal surveys of youth. High School and Beyond (HS&B), sponsored by the U.S. Department of Education, has periodically surveyed a sample of 30,000 tenth-grade students enrolled in 1980 in 1,000 public and private high schools. National Longitudinal Survey of Youth Labor Market Experience (NLS), sponsored by the U.S. Department of Labor, has periodically surveyed a sample of some 12,000 persons who were age 14 to 21 when first surveyed in 1979. While these surveys have provided reliable data on the national dropout situation, neither provides state-specific data.

5. Conceivably, the district could track Jane subsequent to her early leaving—as the HS&B survey has done for its national sample—and therefore erase her recorded dropout event if she re-enrolled. Tracking individuals who drop out would allow a third type of dropout definition, e.g., the "event-history" definition described in a study of HS&B data (Barro and Kolstad 1987).

that school districts are interested parties to the dropout situation. They can be held accountable for student performance and for the expenditures they make. In the interest of public relations or securing funds for dropout-prevention programs, they may manipulate dropout rates downward or upward as required. In the end, a host of administrative, financial, and political considerations influence how school districts define a dropout and whether or not they choose to count and report a dropout.

Responses to Inadequacies in School-based Data

State and federal agencies have known for a long time that dropout counts reported by school districts were unreliable for tracking changes over time and inappropriate for comparing one state to another. There have been two general responses to this situation.

First, USDE has sponsored several efforts to build better data bases. HS&B, cited earlier, is one example. Since 1984, USDE's National Center for Education Statistics (NCES) and the Council of Chief State School Officers have worked to obtain uniform school-based dropout definitions and standardized procedures for monitoring dropping out. Should these improvements be made, school administrative records would likely be more useful for monitoring trends within public school populations and evaluating programs.

However, even in the unlikely event that the nation's 15,500 local school districts adopted and followed uniform procedures, school-based dropout statistics would be of limited use in making cross-state comparisons of working-age populations. School districts are inherently limited in their ability to determine whether or not the youth who leave them have actually terminated their schooling. School districts "cannot be expected to follow the youth beyond a certain period of time (or age of the youth). To the extent that school districts lose track of the youth, uncertainty will be injected into dropout rate calculations" (U.S. GAO 1987). Moreover, even improved school-based statistics would be of little use in relating patterns of educational attainment to out-of-school factors, such as family composition, and beyond-school factors, such as employment and earnings.

Second, with USDE taking the lead, it became common in the mid-1980s to define a dropout incident as having occurred whenever a student did not complete high school on schedule with his or her grade cohort (group of students with which he or she entered the ninth grade). While this practice got around the problem of unreliability in official school district dropout counts by ignoring them, it produced—for reasons detailed below—generally exaggerated state dropout rates.[6]

State Dropout Estimates Derived from School-based Data

For several years, the most widely publicized state dropout rates have been derived from high school completion rates disseminated by the U.S. Department of Education (USDE). Although the USDE approach offers a simplicity that makes it attractive, it lacks the refinement to make it reliable.

Simplicity

The method for calculating these rates uses no direct measure of dropouts (events or persons). Instead, it simply compares the number of public high school graduates in a given year to ninth-grade enrollment four years earlier and thus obtains a completion or graduation rate for the cohort that entered the ninth grade together. A noncompletion rate (completion rate subtracted from 100) is then popularly dubbed a "dropout" rate and assumed to apply to youth age 18 to 19, that is, just beyond the modal or "normal" age of 17 for high school seniors.

Calculation of a 37.3% noncompletion rate for Georgia in 1987 illustrates the method (GaDOE, ND [1987b]).

Ninth-Grade Enrollment	*Number of Graduates*	*Percentage of Graduates*	*Percentage of Noncompleters*
1983-1984	1987	1987	1987
95,708	60,018	62.7%	37.3%

The simplicity of this method makes it easy to understand and at first glance lends itself to making comparisons among the states. Dropout estimates derived by this method have been so uncritically accepted by popular media and public school authorities alike, that almost to the exclusion of any other data they have informed the public debate on dropouts.

Crudity

Unfortunately, the crudity of the method makes it highly unreliable in estimating the true size of state dropout populations. There are several critical weaknesses. It addresses only students in public high schools. Because it ignores elementary and middle school dropouts, who are a significant number especially among Hispanic youth (Hispanic Policy Development Project 1989), and all private high school students, who generally have a lower dropout rate than public school students (Barro and Kolstad 1987), the method does not portray the complete dropout situation in a state.

The main weakness of the method, however, is that it counts as dropouts many youths who are not dropouts. It lumps together youth who drop out and stay out (the

6. A recent NCES report mandated by Congress in 1988 does question the viability of dropout estimates derived from the high school completion rates of ninth-grade cohorts and appears to support our own quest for alternative sources of data. NCES has begun development of two data collection projects: the National Education Longitudinal Study, like HS&B a school-based survey, will follow a sample of 26,000 students who were eighth graders in 1988; National Household Education Survey will, by telephone, collect enrollment and attainment data from households. These surveys are slated to yield national but not state-specific dropout data in the early 1990s (USDE 1989b).

"true" dropouts), those who quit for a while but eventually return for their diploma, and those who stay in school the whole time but for one reason or another do not graduate on schedule with their ninth-grade mates.

In other words, the method makes no adjustment for students who enter or leave the cohort as it moves up from the ninth to the twelfth grade. It does not account for students who transfer, for those who graduate earlier or later than the cohort does, or for students who die. At best, this type of calculation would produce not a true dropout rate, but a *cohort attrition rate*; that is, a rate by which students leave the cohort for any reason.

But, another weakness—that the method depends on the accuracy and comparability of enrollment numbers reported by 15,500 local districts—means that even the cohort attrition rate it produces is unreliable. One fact alone—that a student can easily be counted more than once in the ninth grade but only once at graduation—produces an exaggerated dropout rate by this method. This source of exaggeration is probably greatest in states where people are more likely to move from place to place during the year. Between March 1986 and March 1987, 22.4% of persons living in the West and 20.3% of the South's people changed their place of residence. By comparison, only 16.7% of persons in the Midwest and 11.9% of those in the Northeast were movers. Across the nation, approximately 16% of high school enrollers in 1986-87 were from mover-families (USBC 1989).

State education agencies have regulations aimed at eliminating duplicative enrollment counts. Under the QBE law, Georgia recently implemented new record-keeping procedures. How effective such changes will be remains to be seen; financial and political factors similar to those influencing official dropout counts also influence enrollment counts (for example, see *Education Week* 1989).

The CPS Alternative to School-based Dropout Data

A ready alternative to school districts as the source of dropout data is the U.S. Bureau of the Census. The largest and most comprehensive source of information on the American people, the bureau conducts an enumeration of the U.S. population every 10 years and a household survey of a representative sample of the population every month that produce information on the population's economic and social characteristics, including educational characteristics.

Census Data on Educational Attainment

The presentation in Table 2 illustrates the kind of descriptive statistics that can be derived from census data. These statistics provide the starting point for our analysis of state dropout rates based on Bureau of the Census data.

The statistics describe comparable high school completion rates of persons 25 years old and over, white and nonwhite, for Georgia and the nation, 1940-1987. Data for 1940 to 1980 are from the decennial census; data for 1987 are from the monthly household survey.

The statistics in Table 2 suggest that the educational attainment gap between Georgia's people and the nation as a whole is not as great as USDE high school completion estimates suggest and that the gap is closing. They indicate not only that the percentage of Georgians, 25 years old and over, completing four years of high school or more has risen steadily since 1940, but also that the sharpest increase has come in the past two decades. Between 1970 and 1987, the percentage of Georgians, age 25 and over, completing high school rose more than 30 points to reach 71.2%. By comparison, the percentage of all Americans age 25 and over completing high school rose by 23 points between 1970 and 1987. Thus, while the U.S. average high school completion rate for persons age 25 and over remains above the Georgia rate, Georgia is obviously catching up. The increases shown in Table 2 are due to the higher educational levels of younger adults combined with the attrition of older adults who typically had less formal education.

The difference in 1987 adult high school completion rates shown in Table 2 for white and nonwhite persons in Georgia is narrowed considerably from earlier years. Whereas in 1970 the percentage of nonwhite persons in Georgia completing high school was less than half the rate for white persons, by 1987 the comparable percent for nonwhites reached four-fifths of that for whites. This narrowing suggests that dropout rates for nonwhites declined more sharply than those for whites during the period.

The educational attainment statistics for 1987 shown in Table 2 were produced from a household survey, the *Current Population Survey* (CPS) by the U.S. Bureau of the Census. It is to the CPS in particular that we look for an alternative source of recent data on the dropout situation in each state.

Table 2: *Percentage of Persons 25 Years Old and over Completing Four Years of High School or More, 1940-1987, Georgia and United States*

	Georgia			United States		
	Total %	White %	Nonwhite %	Total %	White %	Nonwhite %
1987	71.2	74.9	60.9	75.6	77.0	63.4
1980	56.4	60.7	41.7	66.5	68.8	51.2
1970	40.6	46.3	20.6	52.3	54.5	31.4
1960	31.9	38.8	11.6	41.1	43.2	21.7
1950	20.8	26.7	5.9	34.2	36.4	13.9
1940	17.4	23.9	3.7	24.4	26.1	7.7

Source: U.S. Bureau of the Census, Census of Population (1940-1980); Current Population Reports, P-20, No. 428, *Educational Attainment in the United States: March 1987 and 1986.*

The Current Population Survey (CPS)

The *Current Population Survey* (CPS) is a national household sample survey of the civilian noninstitutional population. It is conducted monthly by the Bureau of the Census primarily for the Bureau of Labor Statistics to obtain data on employment and earnings. The CPS also gathers data on supplemental topics including educational attainment and enrollment in schools and colleges. Each month, the Bureau of the Census interviews adult respondents in more than 58,000 households nationwide, including more than 800 households in Georgia (for a technical description of CPS, see Hanson 1985).

In contrast to dropout estimates derived from school district administrative records, estimates produced from Bureau of the Census data are based on a uniform definition of who is a dropout and from uniform data-collection and reporting procedures.

Census-based Dropout Definition. School dropouts are persons of any age who are neither enrolled in school nor high school graduates. Three questions asked by the CPS provide the basis for determining who is and who is not a dropout:

1. Are you (is he/she) currently enrolled in high school or college?
2. What was the highest grade in which you were (he/she was) enrolled?
3. Did you (he/she) finish that grade?

Uniform Procedures. Data derived from household survey responses are collected and reported according to uniform procedures. Uniformity means not only that error can be minimized, but also that data are reliable in making state-to-state comparisons and tracking changes over time. Also, because they share a common data base, census data on education and variables such as age, sex, race, employment, income, and poverty status are readily correlatable.

Characteristics and Limitations of CPS Data. Although the CPS has collected data on school completion for many years, only national estimates—not individual state estimates—were published by the Bureau of the Census. Only since 1985, when the CPS sample of households was reformulated to make the sample within each state representative of that state's population, have valid data for individual states, as well as the nation as a whole, been available.

Dropout estimates based on CPS data may be generated for the nation, regions, individual states, and for some metropolitan statistical areas, but not for local school districts.

Population survey data refer to an out-of-school population and reflect the impact of migration. Substantial immigration from countries where the average schooling of labor forces is less than in the United States could raise a state's dropout rate. By the same token, migration from areas of the United States with generally higher levels of educational attainment could lower a state's dropout rate.

The CPS depends on self-reported information. While high school completion refers mainly to progress in regular public or private schools, it may include attainment of a General Education Development (GED) credential. Also, the adult in the household responding to the monthly interview may be unable or unwilling to provide correct information about the school enrollment and educational attainment status of youth in the household.

Georgia Dropout Rate Produced from the CPS

Like other population characteristics (for example, age, sex, race, occupation, and marital status), being a dropout is reported as a percentage. The dropout rate (or percentage) is calculated by dividing the number of estimated high school noncompleters in a population by the estimated total number of persons in the population. The calculation of an 18.3% dropout (noncompletion) rate for Georgians age 18 to 24 in 1986 and 1987 is illustrated as follows:

Population 18 to 24	*Noncompleters 18 to 24*	*Dropout Rate*
680,100	124,650	18.3%

The rate shown, 18.3%, is the average percentage of Georgians age 18 to 24, who during 1986 and 1987 were not enrolled in school and had yet to complete high school. The CPS data allow for breaking Georgia's youth dropout population into two groups: an estimated 21,400 persons (3.1%) completed eight years or less of school and 103,250 (15.2%) completed one to three years of high school.

Comparing Dropout Estimates for the 50 States and District of Columbia

New state-by-state dropout estimates for persons age 18 to 24 based on CPS data for 1986 and 1987 (average for the two years), are presented in Table 3. Previous estimates derived from USDE completion rates for 1987 are reprinted for comparison. The new CPS-based estimates suggest the following:

First, the rate of high school noncompletion does not differ from one state to the next as widely as previously reported. Instead of a difference of more than 35 percentage points according to previous estimates, from Minnesota (9.4%) to District of Columbia (44.5%), the range of CPS-based estimates is less than 16 percentage points, from North Dakota (4.1%) to Texas (19.9%).

Second, when state dropout estimates are based on a survey of *persons* who actually dropped out *and stayed out*, rather than a calculation of attrition from a cohort of high school students, dropout rates are lower. Except in the case of one state, Wyoming, state dropout

estimates for persons age 18 to 24, based on CPS data, are lower than the previous estimates.

Table 3: *Percentage of High School Noncompleters, by State, State Rank, 1986-1987 USDE Estimate and CPS Estimate*

State	USDE-based Estimate %	(rank)	CPS-based Estimate %	(rank)
AL	29.8	(34)	18.5	(44)
AK	33.3	(41)	10.4	(17)
AZ	35.6	(45)	19.7	(49)
AR	22.5	(18)	17.5	(41)
CA	33.9	(42)	17.8	(42)
CO	26.3	(26)	12.0	(23)
CT	19.5	(11)	8.7	(9)
DE	29.9	(35)	9.4	(15)
DC	44.5	(51)	19.8	(50)
FL	41.4	(50)	15.6	(34)
GA	37.5	(47)	18.3	(43)
HI	29.2	(33)	8.9	(11)
ID	21.2	(14)	16.8	(39)
IL	24.3	(22)	13.5	(30)
IN	26.3	(26)	11.5	(21)
IA	13.6	(5)	7.2	(3)
KS	17.9	(9)	8.3	(6)
KY	32.6	(39)	18.5	(44)
LA	39.9	(49)	14.5	(32)
ME	20.7	(13)	12.1	(25)
MD	25.5	(23)	11.4	(20)
MA	23.5	(20)	9.3	(14)
MI	37.6	(48)	12.0	(23)
MN	9.4	(1)	9.2	(13)
MS	35.2	(44)	19.6	(48)
MO	25.6	(24)	11.3	(19)
MT	13.8	(6)	8.1	(5)
NE	13.3	(4)	6.9	(2)
NV	27.9	(31)	15.6	(34)
NH	27.3	(29)	12.5	(26)
NJ	22.8	(19)	8.8	(10)
NM	28.3	(32)	15.1	(33)
NY	37.1	(46)	12.6	(27)
NC	32.2	(37)	16.9	(40)
ND	11.6	(3)	4.1	(1)
OH	17.2	(8)	11.5	(21)
OK	27.4	(30)	12.7	(29)
OR	27.2	(28)	13.5	(30)
PA	21.3	(15)	8.9	(11)
RI	30.6	(36)	16.1	(37)
SC	33.1	(40)	16.6	(38)
SD	20.3	(12)	7.2	(3)
TN	32.2	(37)	19.5	(47)
TX	34.9	(43)	19.9	(51)
UT	19.4	(10)	9.9	(16)
VT	22.0	(16)	8.4	(8)
VA	26.0	(25)	15.6	(34)
WA	22.2	(17)	11.2	(18)
WV	23.8	(21)	18.6	(46)
WI	14.6	(7)	8.3	(6)
WY	10.7	(2)	12.6	(27)

U.S. Average: USDE Estimate 28.9
CPS Estimate 13.0

Sources: 1. U.S. Department of Education, "State Education Statistics Supplement, Student Performance and Resource Inputs, 1987 and 1988" (wall chart), 1989a.
2. U.S. Bureau of the Census, Current Population Survey, 1986 and 1987, all months except June, July, August; machine-readable data file.

Effects of Delayed Graduation and Return to School

The relatively low state dropout rates we have calculated for the 18- to 24-year-old population allow for two important facts which are ignored in rates based on cohort attrition: (1) a significant number of youth age 18 and 19 (that is, older than the modal or "normal" age of 17 for twelfth-grade students) are still enrolled in high school and (2) many others who drop out return to school and complete a regular or equivalency program by age 24.

Census data for the nation show that in October 1986, 13.1% of all 18 to 19 year olds were still enrolled in school (USBC 1988b). However, as data in Table 4 show, the rate by which students remain enrolled in school is associated with race and sex. For example, 18- and 19-year-old black males are twice as likely as their white counterparts to still be enrolled in high school.

If the rate by which students take more than four years to finish high school were constant among all state populations, the effect of delayed graduation on USDE's high school completion rates might be discounted. But, state populations differ. Therefore, the effect of delayed graduation on state dropout estimates based on cohort attrition rates also differs. In Georgia and other states with a greater than average proportion of black youth in the population, the effect of delayed graduation will likely be larger.

Other census data for the nation show that in March 1987, the percentage of youth who were high school graduates reached only 59.5% for those age 18 and 19, but rose to 84.7% for those 20 to 24 years old (USBC 1988a). Studies of data from High School and Beyond (HS&B) indicate that about 40% of those youth who drop out return to the education system and about 30% who drop out eventually earn a high school diploma or equivalency award (Pallas 1987).

Data on the number of dropouts who return to school and earn a regular high school diploma are not available, but throughout the 1980s between 400,000 and 500,000 persons in the United States and between 11,000 and 14,000 in Georgia each year were awarded an equivalency credential by their state, based on General Educa-

Table 4: *Percentage of Persons 18 to 19 and 20 to 21 Enrolled in School below College Level, October 1986*

Age	All Persons	Males			Females		
		All	White	Black	All	White	Black
18 to 19	13.1	17.0	14.3	29.5	9.4	8.8	11.5
20 to 21	1.2	1.1	0.8	2.8	1.3	1.0	2.8

Source: U.S. Bureau of the Census, Current Population Reports, Series P-20, No. 429; *School Enrollment – Social and Economic Characteristics of Students: October 1986.*

tional Development (GED) test results. In 1988, GED test takers in Georgia ranged from under 17 to over 60 years old; about 50% were 18 to 24 years old (American Council on Education 1988). By one unofficial estimate, about 5% of high school completions reported by CPS are GEDs (Paul Siegel, U.S. Bureau of the Census, telephone interview, January 1990).

A Net Dropout Rate

Regarding their usefulness to state policymakers, we make three general claims for the CPS-based estimates we have calculated for the states. First, they are net dropout rates. They allow for completing high school at any age and capture private as well as public high school completions. These net rates account for all current residents of the state who dropped out, regardless of when or where they left school, and for those who undo their act of dropping out by returning to school. Thus, they more accurately indicate the extent of undereducation in the population entering the state's labor force than do gross dropout rates produced from school records.

Second, in the context of economic competitiveness, net dropout rates provide for a more objective comparison of education levels of state populations than school-based gross rates do.

Third, because these net rates are based on census data, they may be appropriately correlated with other census data in analyzing social and cultural factors associated with the dropout phenomenon.

Georgia's Labor Force

The CPS dropout estimates for 18 to 24 year olds, presented in Table 3, imply that in educational attainment Georgia's labor force might compare more favorably to other states than previous estimates have indicated.

The labor force is composed of all men and women (including those enrolled in school and college) who are either employed or actively looking for work. It does not include homemakers and retirees. If we switch our focus from 18 to 24 year olds to the whole labor force, how do the states compare in high school completion? The data presentation in Table 5 is a reverse of that presented in Table 3: here the figures represent the percentage of each state labor force that has *completed* four years of high school or more.

When the unit of analysis is the whole labor force, the high school completion rankings of the states are shuffled somewhat—now Nebraska (88.3%) is the highest and Florida (74.5%) is the lowest. Also, the range is compressed even more than in the case of dropout estimates for 18 to 24 year olds: less than fourteen points separate the highest from the lowest. This compression suggests further that differences among the labor forces of the states may not be as great as those implied in widely publicized school dropout rates. A boost of just a few percentage points would put Georgia's labor force at the national average in high school completion.

Now, the question is: Why is there variability in state high school completion/noncompletion rates?

Table 5: *Percentage of Labor Force Completing High School, by State, State Rank, 1986-1987*

	Labor Force with High School or More	
State	Percent	Rank
AL	76.3	(47)
AK	87.2	(7)
AZ	84.6	(22)
AR	75.3	(49)
CA	81.6	(36)
CO	87.3	(6)
CT	84.3	(23)
DE	85.6	(15)
DC	82.4	(33)
FL	74.5	(51)
GA	79.7	(41)
HI	88.2	(2)
ID	82.0	(35)
IL	83.3	(29)
IN	81.3	(37)
IA	85.8	(14)
KS	87.5	(5)
KY	76.4	(45)
LA	78.4	(43)
ME	82.5	(32)
MD	84.0	(26)
MA	87.2	(7)
MI	84.2	(25)
MN	87.1	(10)
MS	75.3	(49)
MO	83.7	(28)
MT	87.2	(7)
NE	88.3	(1)
NV	82.3	(34)
NH	84.3	(23)
NJ	85.0	(16)
NM	84.9	(20)
NY	85.0	(16)
NC	76.2	(48)
ND	86.6	(12)
OH	83.9	(27)
OK	83.2	(30)
OR	86.2	(13)
PA	85.0	(16)
RI	80.9	(38)
SC	77.8	(44)
SD	82.7	(31)
TN	76.4	(45)
TX	79.0	(42)
UT	87.9	(3)
VT	84.8	(21)
VA	80.7	(39)
WA	87.7	(4)
WV	80.3	(40)
WI	86.9	(11)
WY	85.0	(16)

U.S. Avg. 83.0 percent

Source: U.S. Bureau of the Census, Current Population Survey, 1986, 1987, all months; machine-readable data file.

Part 5. Factors Influencing State Dropout Rates

In our search for causes, we must recognize that causes can be the effects of other causes. For example, youth surveyed in HS&B report reasons for dropping out that reflect their problems with academic performance, social adjustment, and early transition into adult roles (Pallas 1987), but the most frequently cited reasons, "poor grades" and "did not like school" (Ekstrom et al. 1987), are like dropping out itself—undesirable consequences of schooling that are dependent on the operation of some other causes, which may be the effects of still other causes, and so on. Here, we are looking for whatever *underlying* causes will help us understand why state dropout rates vary.

In getting to root causes, we must distinguish between individual dropouts and dropout populations. Knowing why individuals drop out is important to understanding the dropout phenomenon, but some things that might explain an individual dropout cannot explain the size of a dropout population. For example, the view of the person-on-the-street might well be that "Johnnie was slow to learn and as a result he failed and dropped out." That may be the simple truth in some cases. But we are not asking here why Johnnie or Jane drops out, but why the dropout rates of state populations vary. While it is reasonable to assume that individual potential for learning varies, it is not reasonable to assume that one state's population has any more or less potential than any other's; individual differences in potential wash out in state-sized populations.

There is no reason why one state's population should exhibit a higher rate of educational attainment than another's, except for the presence in varying degrees of whatever social relationships and cultural values influence the provision and the consumption of education.

State Characteristics

The links between education and society and culture have long been of interest to researchers. For example, 40 years ago researchers found that qualifying test scores for persons being considered for college-training programs during World War II had an extremely high correlation with the social and economic characteristics of the states (Davenport and Remmers 1950). Very recent research has indicated that subtle differences in certain core political values of state populations influence the legal provision for state education systems (Wirt et al. 1988).

Thus, a pertinent question is: Do social and cultural factors explain the variability in state dropout estimates for youth age 18 to 24, as presented in Table 3? Knowing the extent to which high dropout rates are the product of certain underlying factors is a critical step in assessing just how intransigent a state's dropout problem might be and what strategy for attacking it would be most feasible.

The social and cultural diversity of the 50 states is an historical fact. Because of the mix of people who settled each state, the time periods in which they arrived, the cultural baggage they carried, and the way they used the natural resources they found, each state would have its own personality. Democratic politics and laissez-faire economics encouraged the people of each state to forge their own identity within the larger context of American society and culture. The significance of historical events such as industrialization, the progressive movement, racial segregation, the Great Depression, and the civil rights movement varied from state to state. Political histories reveal that, in some states, citizens rushed to participate in politics and expected their governments to intervene regularly to promote the public welfare. In others, politics tended to be left to professionals or established elites, and state governments were strictly limited. Today, even with much of the country's regional distinctiveness blurred, differences from state to state in what people value and what they can afford are reflected in varying levels of public support for government initiatives in economic and social matters and in different styles of doing the public's business.

To the point, what we know about social and cultural diversity among the states tells us that from state to state, public schooling is neither valued equally nor provided for equally. Therefore, it is reasonable to use the state as the unit of analysis in looking for underlying causes of dropping out.

Research on Social and Cultural Factors in Dropping Out

Many studies have looked for the social and cultural factors that might be associated with dropping out—and found many of them. For example, studies using HS&B data have statistically related dropout rates to locational variables, including residence in one or another of the country's regions and in urban, suburban, or rural areas. Numerous personal and family variables have been implicated, including parents' occupations, whether one or two parents are present in the home, number of siblings, whether or not mother worked while students were in school, and even the family religious affiliation (Barro and Kolstad 1987).

The relationship of dropout rates to race/ethnicity has been well documented in data from CPS and the longitudinal HS&B and NLS studies (U.S. GAO 1986). For example, data from HS&B indicate that the dropout rate for its sample of Asian-Americans stood at only

3.1%, rising to 12.2% for whites, 17.0% for blacks, 18.0% for Hispanics, and 29.2% for Native Americans (Pallas 1987).

The link between parents' educational attainment and youth dropouts has also been well established. Studies in the early 1960s found that three-fourths of the parents of dropouts were themselves dropouts and that two-thirds of the parents of dropouts held "negative or indifferent attitudes toward the value of education" (Weisbrod 1965). More recent data derived from HS&B reveal that students whose parents did not complete high school dropped out at almost twice the rate of students whose parents were high school graduates (but had no college), and at more than three times the rate of students whose parents were college graduates (Barro and Kolstad 1987). CPS data for the nation have also made plain that the educational attainment of heads of family betokens the attainment of younger family members. Data for persons age 14 to 34 who were not enrolled in school or college in October 1986 show that among dropouts age 14 to 34, 61.2% were in families in which the householder (the male or female head of household) was also a dropout. By comparison, 27.2% of the dropouts were in families headed by a high school graduate and only 11.5% were in families whose householder had completed one or more years of college (USBC 1988b).

While the NLS and HS&B data have not established that low family income is or is not a causal factor in dropping out (Rumberger 1983; Barro and Kolstad 1987), over the years, CPS data have repeatedly shown an association between being a dropout and being in a family with low income. For example, among dropouts age 18 to 24, in October 1986, 43% came from families with annual incomes of less than $10,000. Looking at the relationship from another perspective, while about 14% of all 18 to 24 year olds were dropouts, about 33% of persons age 18 to 24 from low income families were dropouts (USBC 1988b).

Analysis of State Dropout Rates

Much of the dropout literature argues that a high incidence of dropping out is particularly related to three intertwined characteristics: race/ethnicity, low income, and low parental education (see for example, Hahn et al. 1987, Ekstrom et al. 1987, and Pallas 1987). However, findings from NLS and HS&B suggest that although dropping out may be especially a problem for minority youth, it is not the factor of race/ethnicity directly, but the parent education and income factors, linked to race/ethnicity, that account for the generally higher dropout rates of minorities (Rumberger 1983; Barro and Kolstad 1987).

If dropping out is strongly influenced by these three factors and if the factors vary from state to state, we can reasonably assume that they account for the variation in state dropout rates. To test this proposition, we statistically explored the relationship between race/ethnicity, low parental education, low family income, and the state dropout rates for youth age 18 to 24.[7]

Measurement

Four measures were used:

- *State Youth Dropout Rate* is the dependent variable. Our measure of this variable is the percentage of youth age 18 to 24 in the state who during 1986 and 1987 had not completed four years of high school. We hypothesize the dropout rate is influenced by the three other variables in the model, either directly or indirectly.
- *Race/Ethnicity* is a totally independent variable, not influenced by any other variables within the model. Our indicator of race/ethnicity is the percentage of public school students in each state who belong to disadvantaged minorities; that is, those students who are classified as black, Hispanic, or Native American.
- *Low Parental Education* is both a dependent and independent variable in the model. It is a difficult concept to measure at state level. As a proxy item, we have used the percentage of the population aged 35 to 52 in each state who had completed less than four years of high school.
- *Low Family Income* is both a dependent and independent variable. It is measured at the state level by the percentage of families with less than $10,000 annual income.

Method

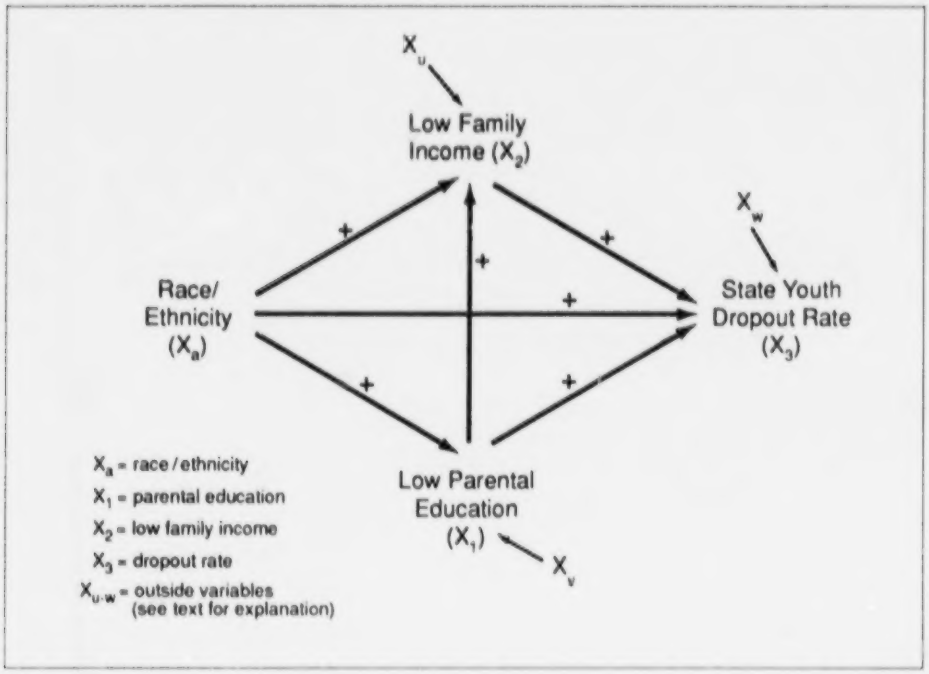
The hypothesized relationships between the variables are shown in Figure 1 (see Appendix, Table 1, for means, standard deviations, and zero-order correlations of the four variables in the statistical model). We are saying that variations in state dropout rate are directly influenced by race/ethnicity, parental education, and family income, as shown by the arrows running directly from these three variables to the dropout rate variable. We hypothesize that these three variables have a positive influence on the state dropout rate, as shown by the plus (+) signs adjacent to the arrows. Hypothesizing that all these relationships are positive means that as the level of the variable at the tail of the arrow increases, so does the level of the variable at the head of the arrow.

In hypothesizing these relationships to be positive, we are in effect saying that

> the greater the percentage of disadvantaged minorities in a state's public school system, the higher the youth dropout rate.
>
> the greater the percentage of a state's population aged 35 to 52 who have less than a high school education, the higher the youth dropout rate.

7. All data were drawn from the CPS, machine-readable data files, 1986 and 1987.

Figure 1: *Hypothesized Model of the Relationship between State Dropout Rate and Three Structural Variables*



the greater the percentage of a state's families with a total income less than $10,000, the higher the youth dropout rate.

The model depicted in Figure 1 also allows us to postulate that the influence of the racial/ethnic composition of a state's public school population on its youth dropout rate may be mediated through connections with parental education and low family income. This is shown by the arrows between these variables.

In addition, the influence of parental education on state dropout rate may be direct and indirect through low income.

Three outside variables (X_u, X_v, and X_w) are shown in the model in Figure 1. These represent any number of factors other than the three independent variables which may account for some of the variation in state dropout rates. We are not claiming that all variation in state dropout rates is caused exclusively by race/ethnicity, level of parental education, and low family income. Nor are we claiming that the variation in state percentages of low-income families and of parents with less than four years of high school, respectively, is caused exclusively by the race/ethnicity variable. The actual measurement of these outside variables and their effects are not of interest to us here. It is, however, important to remember that they exist, and for this reason they are shown in the model.

We tested this hypothetical model statistically by means of path analysis, a statistical technique that allows us to differentiate between the direct effect of, say race/ethnicity on dropout rates, and its indirect effect through parental education and family income. The technique also indicates the strength of the relationship between the variables.

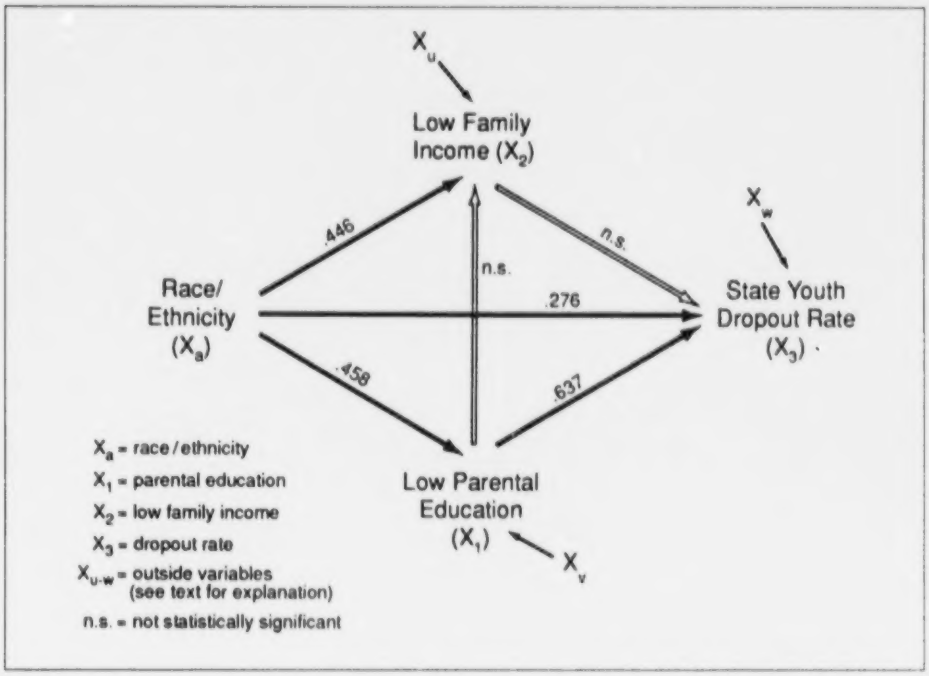
Results

Figure 2 depicts the *direct* effects of the three factors on state dropout rates. Only our hypotheses about the effects of race/ethnicity and parental education on youth dropout rates are supported by the data. Our hypothesis about the effect of low income is not.

The numbers on the arrows depict the strength of the *direct* relationships. Of the factors in the model which *directly* affect the state dropout rate, the most influential is parental education (.637). It is more than twice the strength of the race/ethnicity variable (.276). However, race/ethnicity also has a significant effect on the state youth-dropout rate. The total influence of race/ethnicity on dropout rate (.568) is not shown in Figure 2 (see Appendix, Tables 2a and 2b, for detail on indirect and total effects). The major part of the race/ethnicity effect (.292) is indirect through the relationship between race/ethnicity and parental education. The remainder (.276) represents the direct effect of race/ethnicity on state dropout rate.

Our hypothesis that percentage of parents with less than high school education would influence the state-level variation in the levels of family income and that the income variable in turn would influence the state

Figure 2: *Statistical Relationship between State Dropout Rate and Three Structural Variables*



youth dropout rate is not borne out by the data. The paths between these variables (labeled "n.s.") are not statistically significant and therefore drop out of the model shown in Figure 2. Our data (see Appendix, Table 1) had indicated to us that there is a definite correlation between the relative number of low-income families in a state and its youth dropout rate. However, the subsequent statistical analysis shows us that this relationship is not important when the variables of race/ethnicity and parental education are in the model.

Policy Implications: The Two-Generation Problem

Although both race/ethnicity and parental education have strong effects on state dropout rates, the greater effect is from parental education. This finding suggests that relatively low educational attainment among a state's parent generation of whites, as well as among its parent generations of disadvantaged minorities, contributes to higher rates of dropping out among youth. Therefore, the greater change in the dropout rate would be effected by attending to the low education level of the older generation regardless of race/ethnicity.

The lack of relationship between the state percentage of low-income families and state youth dropout rate seems to suggest that any political manipulation of the income variable would not significantly affect the dropout rate in a state. Policies aimed at enhancing the income of the poorer sections of the population, although necessary for other reasons, should not be seen as part of an overall effort to lower state dropout rates.

Where should state policy be aimed in order to mitigate the effect of low educational attainment from one generation to the next? Dropping out of school is the culmination of a long conditioning process; youth do not drop out overnight. In families where the parents are dropouts, education will often be less valued. Where education is less valued, the "educational support system" of the home will be weaker. Studies using HS&B data found that compared to the homes of nondropouts, the homes of dropouts featured lower levels of parental education, educational expectations for their children, and interest in their children's school activities. The dropouts' homes also had fewer study aids available and less opportunity for nonschool related learning (Ekstrom et al. 1987). Other studies have shown that children more readily identify with and participate in the life of the school when parents emphasize school-related goals in their own lives as well as those of their children (Finn 1989).

Because the influence of parental values and home life on the child's predisposition toward involvement in school begins so early, and because parental dropouts are likely to be negative or indifferent toward the value of education, the most *effective* state dropout policy would therefore have a "two-generation" focus: very young children and their parents. The 18 to 24 year olds, whose dropout rate is pegged to that of their parents'

generation, are now becoming parents themselves. In fact, the dropouts in this age group are the ones most likely to be having children. HS&B data cited earlier revealed that female dropouts in this age group are three times as likely to be mothers than those in this age group who are high school graduates. *Their* children, age 0 to 6 years, who have recently entered or are about to enter school, are likely to be among the next generation of dropouts. The reasoning behind a two-generation approach is that (1) young parents, especially young mothers, can be reached through programs that serve their children; and (2) these young parents, who may have experienced only failure in school, are often motivated by the arrival of children to do more with their lives (Hispanic Policy Development Project 1989).

We are not prepared to address program specifications here. But, at the very least, programs should aim at developing the value foundation for scholastic achievement and lifelong learning; they should help children develop a sense of belonging and identification with school; and they should involve both children and their parents in activities in which they experience the *intrinsic* rewards of learning.

Part 6. Addressing the Real Problem: Underachievement

Underachievement, Not Dropping Out, Is the Problem

Although our discussion to this point has treated dropping out as the problem, we should not lose sight of the reality that dropping out is but a symptom of a much larger problem that Georgia and the nation continue to face. For lack of a better term, we call that problem *underachievement*.

Measures other than dropout rates, such as scores on college entrance examinations, enrollments in college remedial programs, findings of the National Assessment of Educational Progress (NAEP), and cross-national comparisons of American and other youth in tests of science and mathematics, suggest the existence of this larger problem of underachievement (for examples, see Carnegie Council 1989). Our idea of underachievement, however, encompasses more than getting bad marks in school and scoring poorly on multiple-choice tests. It means not being equipped with the intellectual abilities and qualities of socialization one draws on to participate fully and appropriately in society.

Completion/noncompletion of high school provides us with a convenient frame of reference for describing the links between educational attainment and such things as employment and income. But, the labels *dropout* and *graduate* also establish a dichotomy that tends to obscure the reality that too many young adults face: they do not have the knowledge, skills, and attitudes to do the job.

The negative consequences we have associated with the dropout phenomenon actually flow not from dropping out, in itself, but from underachievement. In terms of economic competitiveness, a state, or a nation, are disadvantaged not because too many youth quit high school before getting a diploma, but because too many of them have not achieved adequately in school and are left unable to function in the productive capacity required by society. Not having the abilities popularly assumed to be developed by a high school education relegates many diploma holders to the same less-than-desirable quality of life we usually predict for dropouts.

Moreover, in the evolving world of work, to function in the productive capacity required by society means achieving at levels we usually associate with a college education, not a high school education. Industrial developers, to take one example, are interested not merely in the rate of high school completion in Georgia's labor force, but also (and often more so) in the extent to which it is college-educated.

College Participation

The rates at which state populations are participants in higher education are shown in Table 6.[8] The presentation in Figure 3 illustrates the generally linear relationship between school dropout rates of the states and their college participation rates. More than high school completion, college participation is influenced by migration, and nonresident college enrollments obviously contribute to high rates, for example in New York and the District of Columbia.

The general association shown does not mean that a low level of college participation is the product of a

8. Higher education participation is measured as the percent of persons age 18 to 24 currently enrolled, or enrolled at least once, in colleges and universities during 1986 and 1987.

high incidence of dropping out, or vice versa. Rather, it is that both variables are products of the social relationships and cultural values that influence the provision and consumption of education.

Table 6: *Higher Education Participation: Percentage of Persons 18 to 24 Currently or Once Enrolled, by State, State Rank, 1986-1987*

State	Percent	Rank
AL	37.5	(40)
AK	32.4	(49)
AZ	42.4	(23)
AR	31.6	(50)
CA	43.5	(19)
CO	41.9	(28)
CT	52.6	(2)
DE	44.2	(16)
DC	47.3	(10)
FL	40.3	(33)
GA	40.3	(33)
HI	43.3	(20)
ID	36.8	(42)
IL	46.5	(13)
IN	42.3	(24)
IA	43.9	(18)
KS	48.3	(8)
KY	34.0	(47)
LA	36.5	(45)
ME	39.0	(35)
MD	46.6	(12)
MA	52.2	(3)
MI	44.1	(17)
MN	42.3	(24)
MS	36.9	(41)
MO	45.7	(15)
MT	46.1	(14)
NE	49.4	(6)
NV	32.7	(48)
NH	38.4	(38)
NJ	49.3	(7)
NM	38.6	(37)
NY	50.5	(4)
NC	38.7	(36)
ND	59.0	(1)
OH	41.9	(28)
OK	40.4	(32)
OR	40.9	(31)
PA	42.7	(22)
RI	42.0	(27)
SC	36.8	(42)
SD	46.9	(11)
TN	36.6	(44)
TX	37.8	(39)
UT	49.9	(5)
VT	36.4	(46)
VA	42.3	(24)
WA	41.0	(30)
WV	31.0	(51)
WI	47.5	(9)
WY	43.0	(21)

U.S. Avg. 42.2 percent

Source: U.S. Bureau of the Census, Current Population Survey, 1986, 1987, all months except June, July, August; machine-readable data file.

If we accept the idea that the value placed on education in our society influences participation in higher education, and if we need to increase the level of participation, we would argue that a broadened two-generation approach stressing inculcation of the education value would appropriately address that need. Moreover, such an approach would constitute an *efficient* policy.

Policies that provide inducements merely to attend high school are not going to stimulate college participation. Many teenagers are already motivated to come to school—perhaps by no more than the prospect of meeting other teenagers—without being motivated to learn. Indeed, bribing at-risk youth (with rewards such as t-shirts, hats, and weekend skating trips) to come to school is less likely to increase the intrinsic value of education for them than it is to teach them that education has no intrinsic value (see Gerics and Westheimer 1988). If we are going to improve the appetite of Georgia's young people for scholastic achievement through college, we have to provide them with more experiences—beginning in the preschool years—that are educative rather than miseducative.

Avoiding Costs and Incurring Costs

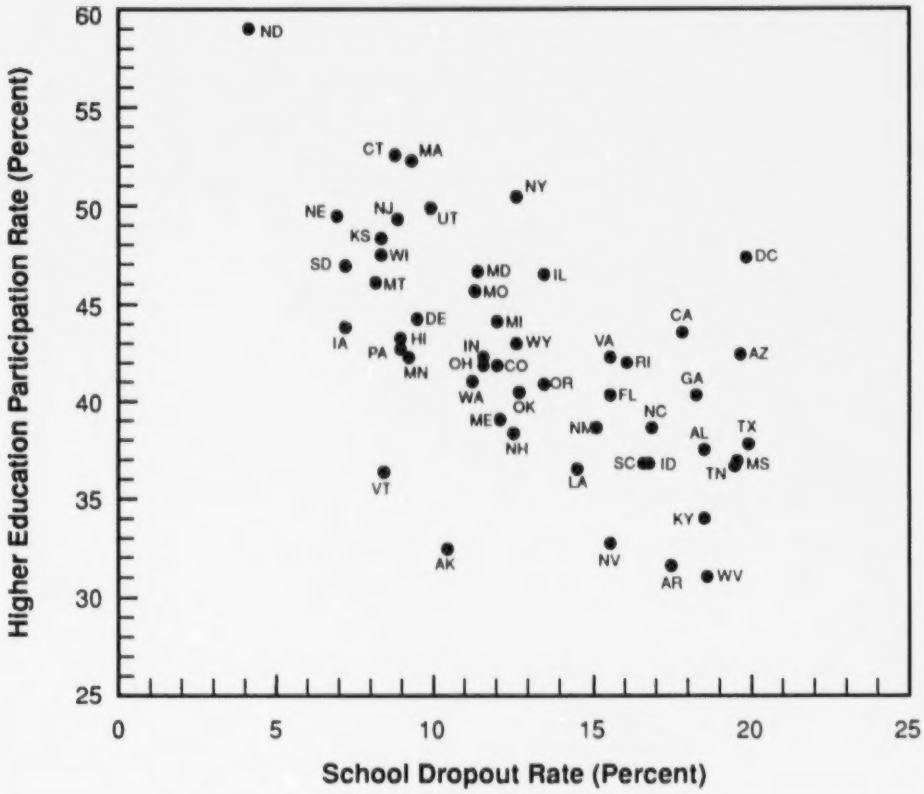
By broadening our focus from preventing at-risk youth from dropping out to stimulating the appetite of all youngsters for learning, some costs will likely be avoided and others will be incurred.

If policies merely contrive to keep potential dropouts off the streets, *social costs* now associated with the dropout population—such as unemployment, poverty, and welfare dependency—would not be reduced. Instead they would become associated with those would-be dropouts who were coerced into staying in school through the twelfth grade. These youths would still lose out. The prevented dropouts would be no more employable and no more productive than if they had been allowed to leave school early.

Focusing on achievement rather than dropping out would allow school districts to avoid *opportunity costs* associated with attending to one segment of the student population, the minority of potential dropouts, at the expense of the rest of the population. A school policy for closing the gap between individual potential and achievement of only one segment of the student population would, of course, make no sense. It would have to apply to all students, so none would be negatively affected by the policy.

Also, we would suggest that by broadening the policy focus from preventing dropouts to fostering achievement, some *political costs* could be avoided. No matter how well-intentioned, education policies that focus narrowly on specific effects such as dropout rates or standardized test scores as ends in themselves carry with them the likelihood of unintended and undesirable consequences, and therefore public disenchantment. Why? Because nar-

Figure 3: *Relationship of State Dropout Rates to Higher Education Participation Rates, Persons 18 to 24, 1986-1987*



Source: U.S. Bureau of the Census, Current Population Survey, 1986, 1987, all months except June, July, August; machine-readable data file.

rowly focused policies can easily work at cross-purposes. How should we evaluate the high school that succeeds in re-enrolling dropouts with the highest absence rates and the worst test scores, but in doing so finds its average attendance rate and test-score average lowered because the least capable students are now attending, but on a more irregular basis than the rest of the student population? Should this school be criticized or penalized for not meeting the goals of state policies on attendance and test-score averages because they work at cross-purposes with the state's dropout policy? (Example adapted from Sherman 1987.)

On the other side of the coin, if we are serious about closing the gap between individual potential and achievement in school, and we include those children who come to school with little or no family support for learning, the *budgeted costs* for public school improvement will certainly be greater than costs for dropout prevention gimmicks. To adjust the school to the array of needs of a more diverse population of learners will require expanding our idea of *school system* and making fundamental changes in the way our schools go about their business.

Of course, some of these changes—from preschool through high school—are already under way in Georgia and other states. For example, Iowa's legislature in 1988 provided for programs, modeled after Head Start, for disadvantaged four year olds and directed the State Board of Regents to develop an early-childhood education center. To preclude later dropouts, Arizona initiated a four-year project in 1988 that targeted at-risk populations, in grades K through 3, defined in terms of socioeconomic status, family mobility, absenteeism, and limited English proficiency (NCSL 1988). The harmful effects of overly large and departmentalized middle schools have been well documented (Carnegie Council 1989; Massachusetts Advocacy Center 1988); and under the QBE law Georgia's General Assembly has provided for grants to local districts who restructure their middle-grade programs to address those effects. Some changes may be in store for the familiar full-time, fixed-time comprehensive high school geared only to batch process a nondifferentiated age cohort on a lockstep schedule. Already, numerous part-time/flexible-time alternatives geared to the needs of a diverse youth population are appearing at the secondary level. In

Maryland, for example, local schools identify and recruit at-risk students age 14 to 21 for collaborative training and work assistance programs administered and directed by private industry councils (NCSL 1988).

If variability in state dropout rates and college participation rates are rooted in the social relationships and cultural values that influence the provision and consumption of education, as we suggest they are, the problem of underachievement will not be solved overnight. While high school attendance can probably be boosted in the short run by any number of devices—from lowering graduation requirements to suspending driver's licenses—true achievement cannot. Addressing the two-generation factor in low educational attainment—by way of early childhood and parental involvement programs—may not achieve the desired results for a decade or more. But once the education value is firmly implanted, it will not be easily uprooted.

Appendix

Tables to Accompany Path Analysis

Table 1 shows the means, standard deviations, and zero-order correlations of the four variables in the model. All variables correlate strongly and positively with each other, with a high level of statistical significance. Interpretation of a correlation coefficient as a measure of association between variables is limited, however, as the only factors taken into account are the variations in the two variables in question. A more meaningful analysis should include the effects of all variables on the dependent variable: youth dropout rate. Ordinary least squares (OLS) regression analysis allows us to accomplish this. Our hypothesis is that although all the independent variables exert an influence on the dependent variable, they also exert an influence on each other, and these influences may in turn affect the state youth dropout rate.

The hypothesized relationships between the variables are shown in Figure 1 (see text). Variations in state dropout rate (X_3 in the model) are directly influenced by race/ethnicity (X_a), parental education (X_1), and family income (X_2), as shown by the arrows running directly from these variables to X_3.

Table 1: *Means, Standard Deviations, and Zero-order Correlation Coefficients of Variables in the Model*

			Zero-order Correlation			
	Mean	Std. Dev.	(1)	(2)	(3)	(4)
Race Ethnicity (1)	21.45	17.67	1.00			
Parental Education (2)	15.98	5.82	.46*	1.00		
Low Income (3)	32.41	2.53	.45*	.29	1.00	
Youth Dropout (4)	12.99	4.21	.58*	.76*	.32	1.00

Note: All correlations are statistically significant at .05. *Denotes a significance level of .001

Tables 2(a) and 2(b) show the results of the analysis. The paths between X_1 and X_2 and between X_2 and X_3 are not statistically significant (see Table 2[a]) and therefore drop out of the model (see Figure 2 in text). Table 1 had indicated to us that there is a definite correlation between the relative number of low-income families in a state and its youth dropout rate. The subsequent statistical analysis shows us that this relationship is not important when the variables of race/ethnicity and parental education are in the model.

The statistical model shows us that, of our three hypothesized independent variables, only two have a direct effect on the state youth dropout rate. Table 2(b) shows us how these variables interact to influence the variation of the dependent variable. The total effects of race/ethnicity and parental education on the state youth dropout rate show similar strengths, at .567 and .637, respectively. The model postulates two ways in which race/ethnicity may affect the youth dropout rate: directly, shown by the arrow linking X_a to X_3, and indirectly, shown by the arrow linking X_a to X_3 through X_1. The "decomposition" shown in Table 2(b) shows us that although the total influence of race/ethnicity on dropout rate is strong (.567), the major part of this effect (.292) is in fact through the relationship between race/ethnicity and parental education. The remainder (.276) represents the direct effect of race/ethnicity on state dropout rate, as depicted by the arrow from X_a to X_3 in Figure 2 (see text).

Table 2(a): *Coefficients of Variables in Structural Equations of a Model of State Youth Dropout Rates*

	Equation and Dependent Variables					
Independent Variable	(1) X_1	(2) X_2	(3) X_2	(4) X_3	(5) X_3	(6) X_3
X_a	.4583	.4461	.3937	.5675	.2756	.2727
X_1			.1144 n.s.		.6369	.6360
X_2						.0074 n.s.

Table 2(b): *Interpretation of Effects in a Model of State Youth Dropout Rates*

Dependent Variable	Independent Variable	Total Effect	Indirect Effect via X_1	Indirect Effect via X_2	Direct Effect
X_1	X_a	.4583			.4583
X_2	X_a	.4461	-		.4461
	X_1	-			-
X_3	X_a	.5675	.2919	-	.2756
	X_1	.6369			.6369
	X_2	-			

Note: Table 2(a) presents the coefficients from which we derive the effects shown in Table 2(b).

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